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Abstract

Studies reveal that students from small high schools tend to do better at some Wisconsin State Universities, especially at WSU-Stevens Point. However, high school percentile rank, regardless of class size, is by far the best single predictor of academic success at WSU-Stevens Point. The present investigation was aimed at determining if students from small high schools make a favorable showing when high school decile rank is held constant. Three entering classes are sampled. The study revealed that 14.3% of the entering freshmen in 65-66, 67-68, and 68-69 who were subsequently dropped in this period were from a high school class size of 1-25; 25.4% of those dropped in this period were from a high school class size of 751-over. However, those from the 1-25 class size had an average high school decile rank of 62.4, while those from the 751-over class size had an average decile rank of 48.4. There is no statistical test available to determine if one class size provides a significantly lower proportion of academic failure than another when high school decile rank is taken into consideration. The data are presented extensively in tabular form, and the discussion is brief. It is concluded that the 1-25 class size has the advantage, as students from small classes do ramarkably well. [Not available in hard copy due to marginal legibility of original document.] (DS)

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Academic Success of Entering Freshmen for 1965, 1967, and 1968, by Class Size Category

A THIRD LOOK AT HIGH SCHOOL SIZE

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Introduction

The Office of Institutional Research at Wisconsin State University-Stevens Point has accidentally come across data suggesting that in at least some Wisconsin State Universities, and in WSU-Stevens Point in particular, students from small high schools tend to do better, or in general more of them succeed in college work, than do students from larger high schools. The first study, made more than a decade ago at the request of Dr. Gordon Haferbecker, revealed that students from "small", "medium", and "large" high schools ranked in that order in quality of work as measured by the Grade Point Ratios. The differences in observed proportions in the grade point categories were significant at the 5 per cent level, as determined by a Chi-Squared test. The study was never published.

A study of dropouts, sponsored by the WSU-CORD Research Consortium in 1967, revealed that a lower proportion of academic failures came from smaller high school class size categories than from larger class size categories of entering students at five Wisconsin State Universities. Differences in proportion of academic failures according to high school class size were significant at the 5 per cent level. (See: Dr. David L. Coker, Preliminary Report: "Diversity of Intellective and Non-Intellective Characteristics Between Persisting and Non-Persisting Students Among Campuses," December, 1967. Inquire of Dr. Coker, Director of Counseling and Guidance, WSU-Stevens Point. Some copies are available in the Office of Institutional Research and Studies, WSU-Stevens Point, William H. Clements, Director.)

A third study, completed in July, 1969, inquired whether or not superior student quality from small high schools would explain the fact that a significantly greater proportion of students from smaller high schools avoided academic failure than from larger high schools, as determined by high school class size. The average high school percentile ranks and mean composite-ACT

scores of class size categories were compared in order to determine whether or not students from smaller schools excel. The tentative conclusion of this study was that no clear evidence of superiority is shown. High school ranks were highest for a class size of 250 or fewer. However, the ACT score means of all groups of 750 or fewer graduates were relatively high with the highest mean for a class size of 251-500. (See: Office of Institutional Research, WSU-Stevens Point, William H. Clements, Director, "High School Class Size, Related to Percentile Rank and ACT Mean Scores of WSU-Stevens Point Students", July, 1969.)

It is apparent that the investigation of high school class size as a predictor of college success is far from complete. Since high school percentile rank is by far the best predictor of academic success at WSU-Stevens Point, (See: Office of Institutional Research, William H. Clements, Director, "Relationship of Academic Predictors to College Success", August, 1969.), the present study is aimed at determining if students from smaller high schools make a favorable showing when high school decile rank is held constant in several samplings of entering freshmen. The findings of this type of analysis are presented in the following pages.

Class Entering in 1965-66 Findings

The first sampling presented is the entering freshman class at WSU-Stevens Point in the 1965-66 academic year. The distribution of these 1,728 fall entrants by high school decile and class size is given in Table 1.

Table 1

Freshmen class of the 1965-66 academic year. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE							Totals	Per cent in H.S. Dec.
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	1	1	3	2	9	3	1	20	1.2
10-19	0	1	8	19	14	9	3	54	3.1
20-29	0	4	25	46	42	23	5	145	8.4
30-39	0	8	29	66	57	25	4	189	10.9
40-49	2	12	30	90	50	26	2	212	12.3
50-59	2	17	43	66	78	17	2	225	13.0
60-69	2	16	44	85	56	18	2	223	12.9
70-79	2	16	56	77	70	14	0	235	13.6
80-89	5	17	57	64	59	11	1	214	12.4
90-99	3	19	65	59	54	9	2	211	12.2
Totals	17	111	360	574	489	155	22	1728	100.0
Per cent in each class size	1.0	6.4	20.8	33.2	28.3	9.0	1.3	100.0	
Average	70.3	66.4	65.5	58.9	59.0	49.8	41.8	Overall: 59.8	

Table 1 shows the high school decile distribution by high school graduating class size of the freshmen class of the 1965-66 academic year. A total of 1,728 freshmen have a known high school percentile rank and high school graduating class size. The average high school percentile rank of these freshmen is 59.8.

The modal decile interval is 70-79. But the frequencies of the intervals from 40-99 are relatively the same.

The modal interval of class size is 101-250. There are 574 freshmen in this interval, or 33.2 per cent. The 251-500 interval has 489 freshmen, or 28.3 per cent. The 1-25 interval has the highest average percentile rank, 70.3, while the 751 & over interval has the lowest, 41.8. The following table gives the number and percentage of freshmen in the lower and upper half of their graduating class by class size interval.

Table 2

Number and per cent of entering 1965-66 freshmen by high school class size and upper-lower half class rank.

	H.S. GRADUATING CLASS SIZE							
Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	3	26	95	223	172	86	15	620
Per cent	17.6	23.4	26.4	38.8	35.2	55.5	68.2	35.9
Upper half	14	85	265	351	317	69	7	1108
Per cent	82.4	76.6	73.6	61.2	64.8	44.5	31.8	64.1

From Table 2 we see that only 17.6 per cent of the freshmen in the 1-25 class size interval rank in the lower half of their high school graduating class, while 68.2 per cent of the freshmen in the 751 & over class size interval rank in the lower half of their high school graduating class.

A total of 1,108 freshmen, or 64.1 per cent, graduated in the upper half of their high school class.

Table 3

Freshmen dropped for academic reasons during the 1965-66 academic year. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE 1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Total	Per cent of total by H.S. Decile
1-9	0	1	2	1	3	2	0	9	2.5
10-19	0	1	1	14	3	1	3	23	6.4
20-29	0	4	10	16	18	10	0	58	16.1
30-39	0	3	12	27	17	6	1	66	18.3
40-49	0	3	6	24	22	11	1	67	18.6
50-59	1	4	12	21	21	2	1	62	17.2
60-69	1	4	9	9	13	2	0	38	10.6
70-79	0	3	4	8	8	1	0	24	6.7
80-89	0	3	5	0	2	1	0	11	3.0
90-99	0	0	2	0	0	0	0	2	0.6
Total	2	26	63	120	107	36	6	360	100.0
Per cent of total by class size	0.6	7.2	17.5	33.3	29.7	10.0	1.7	100.0	
Average	57.5	49.8	49.5	40.7	45.3	38.5	30.5	Overall:	43.95

Table 3 shows the high school decile distribution by high school graduating class size of the entering 1965-66 freshmen dropped for academic reasons during the academic year. A total of 360 freshmen, or 20.8 per cent, were dropped. Their average percentile rank is 44.0, as compared to 59.8 for the total freshmen that entered in 1965-66.

The modal decile interval is 40-49 which has 67 freshmen, or 18.6 per cent of the freshmen dropped. Next is the 30-39 interval which has 66 freshmen, or 18.3 per cent of the freshmen dropped. Most of the dropped freshmen are in the 20-59 bracket. There are 253 freshmen, or 70.3 per cent in this bracket. The lowest decile interval is 90-99 with 2 dropped freshmen.

The modal interval of class size is 101-250. There are 120 dropped freshmen in this interval, or 33.3 per cent. Close to this interval is the 251-500 interval with 107 dropped freshmen, or 29.7 per cent. The 1-25 interval has

the lowest number of dropped freshmen, 2, or 0.6 per cent. The 1-25 interval has the highest average percentile rank, 57.5, while the 751 & over interval has the lowest average percentile rank, 30.5. The following table gives the number and percentage of dropped freshmen in the lower and upper half of their graduating class by class size interval.

Table 4

Number and per cent dropped: entering 1965-66 freshmen, by high school class size and upper-lower half class rank.

	H.S. GRADUATING CLASS SIZE							
Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	0	12	31	82	63	30	5	223
Per cent	0.0	46.2	49.2	68.3	58.9	83.3	83.3	61.9
Upper half	2	14	32	38	44	6	1	137
Per cent	100.0	53.8	50.8	31.7	41.1	16.7	16.7	38.1

From Table 4 we see that there are no dropped freshmen in the 1-25 class size interval who rank in the lower half of their high school graduating class, while 83.3 per cent of the dropped freshmen in both the 501-750 and 751 & over interval rank in the lower half of their high school graduating class.

A total of 223, or 61.9 per cent of the dropped freshmen rank in the lower half of their high school graduating class.

Table 5

Freshmen class of the 1965-66 academic year. Percentage dropped in each high school decile and class size, per cent dropped by decile total, and per cent dropped by class size total.

High School Decile	U.S. GRADUATING CLASS SIZE							Per cent dropped by decile Total
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
1-9	0.0	100.0	66.7	50.0	33.3	66.7	0.0	45.0
10-19	---	100.0	12.5	73.7	21.4	11.1	100.0	42.6
20-29	---	100.0	40.0	34.8	42.8	43.5	0.0	40.0
30-39	---	37.5	41.4	40.9	29.8	24.0	25.0	34.9
40-49	0.0	25.0	20.0	26.7	44.0	42.3	50.0	31.6
50-59	50.0	23.5	27.9	31.8	26.9	11.8	50.0	27.6
60-69	50.0	25.0	20.4	10.6	23.2	11.1	0.0	17.0
70-79	0.0	18.8	7.1	10.4	11.4	7.1	---	10.2
80-89	0.0	17.6	8.8	0.0	3.4	9.1	0.0	5.1
90-99	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.9
Per cent dropped by class size Total	11.8	23.4	17.5	20.9	21.9	23.2	27.3	Overall: 20.83

Table 5, shown above, gives the per cent in each high school decile for each class size who were dropped, and the total per cent dropped for each class size and decile rank. The data are for all entering freshmen whose class size and rank are known, as shown in Table 1 and Table 3. The following facts may be observed from this table: overall, 20.83 per cent were dropped, with by far the lowest per cent (11.8) for class size 1-25, and the highest per cent (27.3) for the largest class size (751 and over). Only 0.9 per cent of the 90-99 high school decile students were dropped, compared to 45.0 per cent of the students in the lowest decile (1-9).

The fact that the class size 1-25 had the highest averaged high school rank might explain the low per cent of drops. Cell size (shown in Table 1) is small in many cases, so the cell percentages of drops in Table 5 may not be significant, since small samples produce large standard errors. So we turn to further analysis.

Table 6

Per cent dropped: entering 1965-66 freshmen, by upper and lower half class rank by class size and graduating class size.

	U.S. GRADUATING CLASS SIZE							
U.S. Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Per cent of lower half dropped	0.0	46.2	32.6	36.8	36.6	34.9	33.3	40.0
Per cent of upper half dropped	14.3	16.5	12.1	10.8	13.9	8.7	14.3	12.4

Table 6 shows the per cent of entering freshmen (fall of 1965), by upper and lower half class rank and by each high school class size, who were dropped. Some 40 per cent with lower half rank were dropped, compared to 12.4 per cent from the upper half rank. The lowest per cent of upper half rank drops was 8.7 per cent, from the class size 501-750.

Class Entering in 1967-68 Findings

The inconclusive findings from the examination of suspension data for the 1965-66 entering freshmen require further study of other entering freshman classes. The next group studied is the entering class of 1967-68.

Table 7

Freshman class of the 1967-68 academic year. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE							Total	Per cent in H.S. Dec.
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	0	1	5	8	5	2	0	21	1.1
10-19	0	0	8	23	25	7	2	65	3.4
20-29	1	3	12	30	61	13	1	121	6.4
30-39	2	13	25	68	54	18	2	182	9.6
40-49	2	9	32	67	65	26	4	205	10.8
50-59	7	14	45	80	85	23	0	254	13.3
60-69	1	16	39	80	78	23	3	240	12.6
70-79	4	29	51	97	95	20	3	299	15.7
80-89	6	27	64	97	77	21	0	292	15.3
90-99	3	27	47	81	56	11	0	225	11.8
Total	26	139	328	631	601	164	15	1904	100.0
Per cent in each class size	1.4	7.3	17.2	33.1	31.6	8.6	0.8	100.0	
Average	65.19	70.05	65.26	61.72	58.55	56.02	48.07	Overall:	61.38

Table 7 shows the high school decile distribution by high school graduating class size of the freshman class of the 1967-68 academic year. A total of 1,904 freshmen have a known high school percentile rank and high school graduating class size. The average high school percentile rank of these freshmen is 61.38.

The modal decile interval is 70-79. However, the frequency of the interval from 80-89 is nearly the same.

The modal interval of class size is 101-250. There are 631 freshmen in this interval, or 33.1 per cent. The 251-500 interval has 601 freshmen, or 31.6 per cent. The 26-50 interval has the highest average percentile rank, 70.05, while the 751 & over interval has the lowest, 48.07. The following table gives the number and percentages of freshmen in the lower and upper half of their graduating class by class size interval.

Table 8

Number and per cent of entering freshmen in 1967-68 by high school class size and upper-lower half class rank.

	H.S. GRADUATING CLASS SIZE							
Decile	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	5	26	82	196	210	66	9	594
Per cent	19.2	18.7	25.0	31.1	34.9	40.2	60.0	31.2
Upper half	21	113	246	435	391	98	6	1310
Per cent	80.8	81.3	75.0	68.9	65.1	59.8	40.0	68.8

From the table we see that only 18.7 per cent of the freshmen in the 26-50 class size interval rank in the lower half of their high school graduating class, while 60.0 per cent of the freshmen in the 751 & over class size interval rank in the lower half of their high school graduating class.

A total of 1,310 freshmen, or 68.8 per cent graduated in the upper half of their high school class.

Table 9

Freshmen class of 1967-68 academic year dropped for academic reasons. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE							Totals	Per cent in H. S. Dec.
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	0	1	1	4	2	2	0	10	2.8
10-19	0	0	4	12	10	3	2	31	8.6
20-29	0	2	9	18	24	5	0	58	16.0
30-39	1	2	13	23	15	4	2	60	16.5
40-49	1	4	9	16	20	11	0	61	16.8
50-59	3	5	11	24	19	5	0	67	18.5
60-69	0	3	9	8	10	7	1	38	10.5
70-79	0	4	5	6	7	0	0	22	6.1
80-89	0	2	3	3	2	0	0	10	2.8
90-99	0	0	2	1	2	0	0	5	1.4
Total	5	23	66	115	111	37	5	362	100.0
Per cent in each class size	1.4	6.4	18.2	31.7	30.7	10.2	1.4	100.0	
Average	48.4	54.2	47.3	39.6	42.4	40.9	32.2	Overall: 43.3	

Table 9 shows the high school decile distribution by high school graduating class size of the entering 1967-68 freshmen who were dropped for academic reasons during the academic year. A total of 362 freshmen were dropped. Their average percentile rank is 43.3, as compared to 61.4 for all freshmen, who entered in the fall of 1967-68.

The modal decile interval is 50-59, which has 67 freshmen, or 18.5 per cent of the freshmen dropped. Next is the 40-49 interval which has 61 freshmen, or 16.8 per cent. Most of the dropped freshmen are in the 20-59 bracket. There are 246 freshmen, or 67.8 per cent in this bracket. The lowest decile interval is 90-99 with 5 dropped freshmen.

The modal interval of class size is 101-250. There are 115 dropped freshmen in this interval, or 31.7 per cent. Close to this interval is the 251-500 interval with 111 dropped freshmen, or 30.7 per cent. The 1-25 interval and

the 751 & over interval are tied for the lowest number of dropped freshmen: 5, or 1.4 per cent. The 26-50 interval has the highest average percentile rank, 54.., while the 751 & over interval has the lowest average percentile rank, 32.2. The following table gives the number and percentage of dropped freshmen in the lower and upper half of their graduating class by class size or interval.

Table 10
Per cent entering 1967-68 freshmen dropped, by high school class size and upper-lower half class rank.

Rank	H.S. GRADUATING CLASS SIZE							Totals
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
Lower half	2	9	36	73	71	25	4	220
Per cent	40.0	39.1	54.5	63.5	64.0	67.6	80.0	60.8
Upper half	3	14	30	42	40	12	1	142
Per cent	60.0	60.9	45.5	36.5	36.0	32.4	20.0	39.2

From the table we see that from the 1-25 and 26-50 class size intervals, 40.0 per cent and 39.1 per cent, respectively, of the dropped freshmen rank in the lower half of their high school graduating class. In the 751 & over interval, 80.0 per cent of the dropped freshmen rank in the lower half.

A total of 220, or 60.8 per cent of the dropped freshmen rank in the lower half of their high school graduating class.

Table 11

Freshman class of 1967-68 academic year. Percentage dropped in each high school decile and class size, per cent dropped by decile total, and per cent dropped by class size total.

High School Decile	H.S. GRADUATING CLASS SIZE							Per cent dropped by decile Total
	1-25	25-50	51-100	101-250	251-500	501-750	751 & Over	
1-9	---*100.0		20.0	50.0	40.0	100.0	----	47.6
10-19	---**	---	50.0	52.2	40.0	42.9	100.0	47.7
20-29	0.0	66.6	75.0	60.0	39.3	38.5	0.0	47.9
30-39	50.0	15.4	52.0	33.8	27.8	22.2	100.0	33.0
40-49	50.0	44.4	28.1	23.9	30.8	42.3	0.0	29.8
50-59	42.9	35.7	24.4	30.0	22.4	21.7	----	26.4
60-69	0.0	18.8	23.1	10.0	12.8	30.4	33.3	15.8
70-79	0.0	13.8	9.8	6.2	7.4	0.0	0.0	7.4
80-89	0.0	7.4	4.7	3.1	2.6	0.0	----	3.4
90-99	0.0	0.0	4.3	1.2	3.6	0.0	----	2.2
Per cent dropped by class size Total	19.2	16.5	20.1	18.2	18.5	22.6	33.3	19.0

Table 11 shows the per cent dropped for each class size and high school rank interval. Overall, the lowest per cent of drops (16.5 per cent) came from the class size 26-50, and the greatest per cent (33.3 per cent) came from the class size 751 & over. Since class size 26-50 had the highest average rank, and class size 751 & over had the lowest average rank, the class rank appears to be the most prominent predictor of success. No student in class size 1-25 with high school decile 60-69 or higher was dropped from school. Nearly 48 per cent of all students in the lowest three high school deciles were dropped, compared to only 2.2 per cent of the 90-99 decile.

* 0.0 = 0 per cent dropped

** ---= 0 cases

Table 12

Per cent dropped: entering 1967-68 freshmen, by upper and lower half class rank and by class size.

	H.S. GRADUATING CLASS SIZE							
H.S. Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Per cent of lower half dropped	60.0	34.6	43.9	37.2	33.8	37.9	44.4	37.0
Per cent of upper half dropped	14.3	12.4	12.2	9.7	10.2	12.2	16.7	10.8

This table gives the percentage of those students who entered and then were suspended and who were in the upper and lower half of their high school class. The per cent of drops from the upper half of the high school class ranged from 9.7 for class size 101-250, to 16.7 for class size 751 & over. However, the largest and smallest class sizes have so few cases that chance could explain wide differences in proportion or percentage. For students who ranked in the upper half of their high school class, the class size 101-250 shows the most favorable rate of student retention.

Class Entering in 1968-69 Findings

We turn next to the WSU-Stevens Point entering freshman class in the fall of 1968. Data for this group are presented in Table 13.

Table 13

Freshman class of 1968-69 academic year. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE							Totals	Per cent in H.S. Dec.
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	1	4	2	12	13	7	1	40	1.6
10-19	1	3	13	39	43	9	1	109	4.4
20-29	3	8	25	57	70	14	3	180	7.2
30-39	4	10	34	95	75	27	3	248	10.0
40-49	6	20	40	109	102	23	4	304	12.2
50-59	5	18	59	102	113	29	7	333	13.4
60-69	4	23	57	124	98	21	5	332	13.4
70-79	3	22	67	104	100	14	2	312	12.6
80-89	5	35	77	110	91	10	2	330	13.3
90-99	2	28	71	107	71	15	2	296	11.9
Totals	34	171	445	859	776	169	30	2484	100.0
Per cent in each class size	1.4	6.9	17.9	34.6	31.2	6.8	1.2	100.0	
Average	55.3	66.0	65.4	59.7	57.0	52.0	53.3	Overall: 59.3	

Table 13 shows the high school decile distribution by high school graduating class size of the freshman class of the 1968-69 academic year. A total of 2,484 freshmen have a known high school percentile rank and high school graduating class size. The average high school percentile rank of these freshmen is 59.3.

The modal decile interval is 50-59. The frequencies of the intervals 60-69 and 80-89 are relatively the same as the modal decile interval 50-59.

The modal interval of class size is 101-250. There are 859 freshmen in this interval, or 34.6 per cent of the entering freshman class of the 1968-69 academic year. The 251-500 interval has 776 freshmen, or 31.2 per cent.

The 26-50 interval has the highest average percentile rank, 66.0, while the 501-750 interval has the lowest, 52.0 per cent. The following table gives the number and percentage of freshmen in the lower and upper half of their graduating class by class size interval.

Table 14

Number and per cent of entering freshmen 1968-69, by high school class size and upper-lower half class rank.

	H.S. GRADUATING CLASS SIZE							
Decile	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	15	45	114	312	303	80	12	881
Per cent	44.1	26.3	25.6	36.3	39.0	47.3	40.0	35.5
Upper half	19	126	331	547	473	89	18	1603
Per cent	55.9	73.7	74.4	63.7	61.0	52.7	60.0	64.5

From Table 14 we see that in the 26-50 and 51-100 intervals, 26.3 and 25.6 per cent, respectively, of the freshmen rank in the lower half of their high school graduating class, while 47.3 per cent of the freshmen in the 501-750 interval rank in the lower half of their high school graduating class.

A total of 1,603 freshmen, or 64.5 per cent, graduated in the upper half of their high school class.

Table 15

Freshman class of the 1968-69 academic year. Freshmen dropped for academic reasons. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE							Totals	Per cent in H.S. Dec.
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	0	1	1	3	5	1	0	11	2.8
10-19	0	1	3	9	17	2	0	32	8.1
20-29	0	4	10	13	25	6	1	59	14.9
30-39	2	3	12	21	24	8	1	71	17.9
40-49	1	6	10	25	30	8	0	80	20.1
50-59	0	4	10	13	21	4	2	54	13.6
60-69	1	4	6	16	17	2	1	47	11.8
70-79	0	3	9	8	5	2	1	28	7.0
80-89	0	2	6	3	1	0	0	12	3.0
90-99	0	0	0	3	0	0	0	3	.8
Totals	4	28	67	114	145	33	6	397	100.0
Per cent in each class size	1.0	7.1	16.9	28.7	36.5	8.3	1.5	100.0	
Average	45.0	42.8	48.3	49.0	45.9	39.9	40.0	Overall:	44.0

Table 15 shows the high school decile distribution by high school graduating class size of the entering 1968-69 freshmen dropped for academic reasons during the academic year. A total of 397 freshmen were dropped. Their average percentile rank is 44.0, as compared with 59.3 for the total freshmen that entered in 1968-69.

The modal decile interval is 40-49 which has 80 freshmen, or 20.1 per cent of the freshmen dropped. Next is the 30-39 interval, which has 71 freshmen, or 17.9 per cent. Most of the dropped freshmen are in the 20-59 bracket. There are 264 freshmen, or 66.5 per cent in this bracket. The lowest decile interval is 90-99 with 3 dropped freshmen.

The modal interval of class size is 251-500. There are 145 dropped freshmen in this interval, or 36.5 per cent of the 1968-69 freshman class. The 1-25 interval has the lowest number of dropped freshmen, 4, or 1.0 per cent, while the 751 & over interval follows closely with 6, or 1.5 per cent of the dropped freshmen.

The 101-250 interval has the highest average percentile rank, 49.0, while the 501-750 interval has the lowest, 39.9. The following table gives the number and percentage of the dropped freshmen in the lower and upper half of their graduating class by class size interval.

Table 16

Per cent of entering 1968-69 freshmen dropped, by high school class size and upper-lower half class rank.

	H.S. GRADUATING CLASS SIZE							
Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	3	15	36	71	101	25	2	253
Per cent	75.0	56.6	53.7	62.3	69.7	75.8	33.3	63.7
Upper half	1	13	31	43	44	8	4	144
Per cent	25.0	46.4	46.3	37.7	30.3	24.2	66.7	36.3

From the table we see that there are only 33.3 per cent of the dropped freshmen in the 751 & over class size interval who graduated in the lower half of their class, while 75.8 per cent of the dropped freshmen in the 501-750 interval graduated in the lower half of their class. For upper-half ranked students, only 25.0 per cent in class size 1-25 and 24.2 per cent in class size 501-750 were dropped, as compared to a 36.3 per cent overall.

A total of 253, or 63.7 per cent of the dropped freshmen ranked in the lower half of their graduating class.

Table 17

Freshman class of the 1968-69 academic year. Percentage dropped in each high school decile and class size, per cent dropped by decile total, and per cent dropped by class size total.

High School Decile	H.S. GRADUATING CLASS SIZE							Per cent dropped by decile Total
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
1-9	0.0	25.0	50.0	25.9	38.4	14.3	0.0	27.5
10-19	0.0	33.3	23.1	23.1	39.5	22.2	0.0	28.6
20-29	0.0	50.0	40.0	22.8	35.7	42.8	33.3	32.7
30-39	50.0	30.0	35.3	22.1	32.0	29.6	33.3	28.5
40-49	16.7	30.0	25.0	22.9	29.4	34.8	0.0	26.2
50-59	0.0	22.2	16.9	12.7	18.6	13.8	28.6	16.2
60-69	25.0	17.4	10.5	12.9	17.3	9.5	20.0	14.1
70-79	0.0	13.6	13.4	7.7	5.0	14.3	50.0	8.9
80-89	0.0	5.7	7.8	2.7	1.1	0.0	0.0	3.6
90-99	0.0	0.0	0.0	2.8	0.0	0.0	0.0	1.0
Per cent dropped by class size Total	11.7	16.3	15.1	13.2	18.7	19.5	20.0	16.0

Table 18

Per cent dropped: entering 1968-69 freshmen, by upper and lower half class rank and by class size.

H.S. Rank	H.S. GRADUATING CLASS SIZE							Totals
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
Per cent of lower half dropped	20.0	33.3	31.6	22.8	33.3	31.3	16.7	28.7
Per cent of upper half dropped	5.3	10.3	9.4	7.9	9.3	9.0	22.2	9.0

Table 17 is particularly useful to our analysis, in that the class size 1-25, the smallest size category, does not have one of the highest average percentile ranks. Yet from this category, the lowest per cent (11.7 per cent) were dropped, compared to 16.0 per cent overall and per cents ranging from 18.7 to 20.0 for the three largest class size categories.

Only one of the 19 students from the upper half of the high school class was dropped from school for academic failure--a lower per cent than for any other group, as is shown in Table 18. Class size 1-25 has thus made the most favorable showing.

The 1968-69 freshmen differ from the two groups previously studied in two ways: (1) five of the lowest decile rank categories had about the same proportion of drops, and (2) the proportion dropped was considerably lower for this group.

SUMMARY AND CONCLUSIONS

In this analysis we have determined the proportion of academic drops in the first two semesters for various class size categories in three sub-populations of freshmen entering WSU-Stevens Point: those entering in the fall of 1965, 1967, and 1968. We have attempted to control the quality of academic ability through the equating of groups by class size and by high school decile rank. Then, because of the resulting small cell sizes, we have combined deciles of the upper half and the lower half of high school class rank. Since high school class size is the best available measure of high school size, we attempted to generalize concerning high school size relating to success at WSU-Stevens Point as evidenced by avoidance of academic failure in the first two semesters. Particularly, we turn our attention to the class size 1-25, as coming from a school so small as to be unthinkable in modern educational planning.

Class sizes 1-25 and 751 & over were small categories, usually about 1 per cent of the total each. All other categories had large numbers of students, so that chance sampling fluctuations in quality would be reduced greatly.

For the 1965-66 entrants, by far the lowest proportion of drops, 11.8 per cent, came from class size 1-25, and the greatest proportion, 27.3 per cent came from class size 751 & over. Class size 51-100 was second lowest, with 17.5 per cent dropped. However, in this population at least some of the advantage for the 1-25 class size group can be attributed to a higher average percentile rank (70.3), and the poor showing of the class size 751 & over can largely be attributed to the 41.8 percentile rank average.

The lowest per cent of drops from the 1967-68 entrants came from class size 26-50, which also had the highest percentile rank average. Class size 101-250 had the lowest proportion of drops from the upper half of the class. Again, the greatest proportion of drops came from the two categories of largest class size. Yet these categories had the lowest average percentile rank.

The lowest proportion of drops from the 1968-69 entrants (11.7 per cent) came from the class size 1-25, with the 101-250 class size ranking second. For the group, the class size 1-25 entrants did not have the highest average percentile rank; 55.3 is four points below the overall average of 59.3. Among 1968-69 entrants, those in class size 1-25 clearly made the best showing.

Since the cell sizes for large and small class sizes are still quite small, we present tables 19 to 24, which combine the data for all three years, and thus provide a larger body of composite evidence.

Table 19

Combined freshman classes of the 1965-66, 1967-68, and 1968-69 academic years. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	U.S. GRADUATING CLASS SIZE							Total	Per cent of total
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over		
1-9	2	6	10	22	27	12	2	81	1.3
10-19	1	4	29	81	82	25	6	228	3.7
20-29	4	15	62	133	173	50	9	446	7.3
30-39	6	31	88	229	186	70	9	619	10.1
40-49	10	41	102	266	207	75	10	711	11.7
50-59	14	49	147	248	276	69	9	812	13.3
60-69	7	55	140	289	232	62	10	795	13.0
70-79	9	67	174	278	265	48	5	846	13.9
80-89	16	79	198	271	227	42	3	836	13.7
90-99	8	74	183	247	181	35	4	732	12.0
Totals	77	421	1133	2064	1856	488	67	6106	100.0
Per cent in each class size	1.3	6.9	18.5	33.8	30.4	8.0	1.1	100.0	
Average	62.4	67.5	65.5	60.3	58.3	52.9	48.4	60.4	

Table 20

Number and per cent entering 1965-66, 1967-68, and 1968-69 freshmen by high school class size and upper-lower half class rank.

Rank	U.S. GRADUATING CLASS SIZE							Totals
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
Lower half	23	97	291	731	675	232	36	2085
Per cent	29.9	23.0	25.7	35.4	36.4	47.5	53.7	34.1
Upper half	54	324	842	1333	1181	256	31	4021
Per cent	70.1	77.0	74.3	64.6	63.6	52.5	46.3	65.9

Table 21

Freshmen dropped for academic reasons during the 1965-66, 1967-68, and 1968-69 academic years. High school decile, high school graduating class size, per cent from each high school graduating class size and high school decile, and average high school rank for each class size.

High School Decile	H.S. GRADUATING CLASS SIZE 1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Total	Per cent of each H.S. Dec.
1-9	0	3	4	8	10	5	0	30	2.7
10-19	0	2	8	35	30	6	5	86	7.7
20-29	0	10	29	47	67	21	1	175	15.7
30-39	3	8	37	71	56	18	4	197	17.6
40-49	2	13	25	65	72	30	1	208	18.6
50-59	4	13	33	58	61	11	3	183	16.4
60-69	2	11	24	33	40	11	2	123	11.0
70-79	0	10	18	22	20	3	1	74	6.6
80-89	0	7	14	6	5	1	0	33	2.9
90-99	0	0	4	4	2	0	0	10	0.9
Totals	11	77	196	349	363	106	17	1119	100.0
Per cent of totals by class size	1.0	6.9	17.5	31.2	32.4	9.5	1.5	100.0	
Average	49.5	51.1	48.9	43.1	42.5	40.1	38.5	44.2	

Table 22

Number and per cent dropped of entering 1965-66, 1967-68, and 1968-69 freshmen, by high school class size and upper-lower half class rank.

Rank	H.S. GRADUATING CLASS SIZE 1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Lower half	5	36	103	226	235	80	11	696
Per cent	45.5	46.8	52.6	64.8	64.7	75.5	64.7	62.2
Upper half	6	41	93	123	128	26	6	423
Per cent	54.5	53.2	47.4	35.2	35.3	24.5	35.3	37.8

Table 23

Freshman classes of the 1965-66, 1967-68, and 1968-69 academic years. Percentage dropped in each high school decile and class size, per cent dropped by decile total, and per cent dropped by class size total.

High School Decile	U.S. GRADUATING CLASS SIZE							Per cent dropped by decile Total
	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	
1-9	*0.0	50.0	40.0	36.4	37.0	41.7	0.0	37.0
10-19	0.0	50.0	27.6	43.2	36.6	24.0	83.3	37.7
20-29	0.0	66.7	46.8	35.3	38.7	42.0	11.1	39.2
30-39	50.0	25.8	42.0	31.0	30.1	25.7	44.4	31.8
40-49	30.0	31.7	24.5	24.4	34.8	40.0	10.0	29.3
50-59	28.6	26.5	22.4	23.4	22.1	15.9	33.3	22.5
60-69	23.6	20.0	17.1	11.4	17.2	17.7	20.0	15.5
70-79	0.0	14.9	10.3	7.9	7.5	6.2	20.0	8.7
80-89	0.0	8.9	7.1	2.2	2.2	2.4	0.0	3.9
90-99	0.0	0.0	2.2	1.6	1.1	0.0	0.0	1.4
Per cent dropped by class size Total	14.3	18.3	17.3	16.9	19.6	21.7	25.4	Overall: 18.3

*0.0 = 0 per cent dropped

Table 24

Per cent dropped: entering freshmen 1965-66, 1967-68, and 1968-69 by upper and lower half rank and by class size.

	U.S. GRADUATING CLASS SIZE							
U.S. Rank	1-25	26-50	51-100	101-250	251-500	501-750	751 & Over	Totals
Per cent of lower half dropped	21.7	37.1	39.8	30.9	34.8	34.5	30.6	33.4
Per cent of upper half dropped	11.1	12.7	11.1	9.2	10.8	10.2	19.4	10.5

Summary

From Table 19, one can observe that the average class rank is highest for the class sizes 26-50 and 51-100, and lowest for the class size 751 & over, with an average of 60.4 for all 6,106 cases. From Table 20 it is clear that the per cent of entrants ranking in the upper half of their class was highest and lowest in the various class sizes in the same order as the average ranks in Table 19.

From Table 21, it can be seen that the great majority of academic drops had ranked below the 60th percentile, and that the average percentile rank for all drops was 44.2. Table 22 shows that fewer than 38 per cent of the drops ranked in the upper half of their class. The proportion of drops by class size varied with the proportion in the upper and lower half of the class.

Perusal of Table 23 reveals that 14.3 per cent of the entering freshmen were dropped in the class size 1-25, the lowest proportion of the seven categories. Second lowest, 16.9 per cent, were dropped from the class size 101-250. The greatest proportion dropped came from the two largest class sizes, which also had the lowest average percentile rank. Table 24 shows that only 10.5 per cent of all upper-half ranked students were dropped as compared to 33.4 per cent of all lower-half ranked students. The table also shows that the superiority of class size 1-25 comes from the significantly lower per cent of drops among students who had ranked in the lower half of their high school class.

The data presented in these tables is too complex to be summed up in a few words. There is no statistical test available to determine if one class size has provided a significantly lower proportion of academic drops than another, when potential student quality as determined by high school rank is taken into consideration. From available data, it appears that the class size 1-25 has the advantage. We must conclude by saying that at WSU-Stevens Point, students from very small high schools do remarkably well.